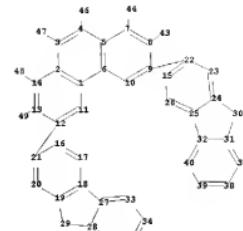
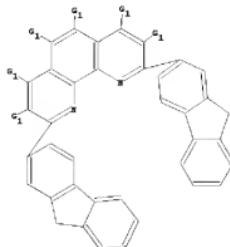


-46 7-44 8-43 9-22 12-21 13-49 14-48
ring bonds :



1-2 1-6 1-11 2-3 2-14 3-4 4-5 5-6 5-7 6-10 7-8 8-9 9-10 11-12 12-13
13-14 15-26 15-22 16-21 16-17 17-18 18-19 18-27 19-20 19-29 20-21 22-23
23-24 24-25 24-30 25-26 25-32 27-28 27-33 28-29 28-36 30-31 31-32 31-37
32-40 33-34 34-35 35-36 37-38 38-39 39-40

exact/norm bonds :

3-47 4-46 7-44 8-43 13-49 14-48

exact bonds :

9-22 12-21 18-27 19-29 24-30 25-32 28-29 30-31

normalized bonds :

1-2 1-6 1-11 2-3 2-14 3-4 4-5 5-6 5-7 6-10 7-8 8-9 9-10 11-12 12-13
13-14 15-26 15-22 16-21 16-17 17-18 18-19 19-20 20-21 22-23 23-24 24-25
25-26 27-28 27-33 28-36 31-32 31-37 32-40 33-34 34-35 35-36 37-38 38-39

39-40

isolated ring systems :

containing 1 : 15 : 16 :

G1:H,Ak

Match level :

1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS
10:CLASS 11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS
18:CLASS 19:CLASS 20:CLASS 21:CLASS 22:CLASS 23:CLASS 24:CLASS 25:CLASS
26:CLASS 27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS
34:CLASS 35:CLASS 36:CLASS 37:CLASS 38:CLASS 39:CLASS 40:CLASS 43:CLASS
44:CLASS 46:CLASS 47:CLASS 48:CLASS 49:CLASS

L4 STRUCTURE UPLOADED

=> d 14

L4 HAS NO ANSWERS

L4 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

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FILE COVERS 1907 - 16 Mar 2009 VOL 150 ISS 12
FILE LAST UPDATED: 15 Mar 2009 (20090315/ED)

Caplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2008.

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This file contains CAS Registry Numbers for easy and accurate substance identification.

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=> s 16
L7          23 L6

=> d bas fbib hitstr 23
'BAS' IS NOT A VALID FORMAT FOR FILE 'CAPLUS'
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The following are valid formats:

```
ABS ----- GI and AB
ALL ----- BIB, AB, IND, RE
APPS ----- AI, PRAI
BIB ----- AN, plus Bibliographic Data and PI table (default)
CAN ----- List of CA abstract numbers without answer numbers
CBIB ----- AN, plus Compressed Bibliographic Data
CLASS ----- IPC, NCL, ECLA, FTERM
DALL ----- ALL, delimited (end of each field identified)
DMAX ----- MAX, delimited for post-processing
FAM ----- AN, PI and PRAI in table, plus Patent Family data
FBIB ----- AN, BIB, plus Patent FAM
IND ----- Indexing data
IPC ----- International Patent Classifications
MAX ----- ALL, plus Patent FAM, RE
PAT5 ----- PI, SO
SAM ----- CC, SX, TI, ST, IT
SCAN ----- CC, SX, TI, ST, IT (random display, no answer numbers;
           SCAN must be entered on the same line as the DISPLAY,
           e.g., D SCAN or DISPLAY SCAN)
STD ----- BIB, CLASS

IABS ----- ABS, indented with text labels
```

IALL ----- ALL, indented with text labels
IBIB ----- BIB, indented with text labels
IMAX ----- MAX, indented with text labels
ISTD ----- STD, indented with text labels

OBIB ----- AN, plus Bibliographic Data (original)
OIBIB ----- OBIB, indented with text labels

SBIB ----- BIB, no citations
SIBIB ----- IBIB, no citations

HIT ----- Fields containing hit terms
HITIND ----- IC, ICA, ICI, NCL, CC and index field (ST and IT) containing hit terms
HITRN ----- HIT RN and its text modification
HITSTR ----- HIT RN, its text modification, its CA index name, and its structure diagram
HITSEQ ----- HIT RN, its text modification, its CA index name, its structure diagram, plus NTE and SEQ fields
FHITSTR ----- First HIT RN, its text modification, its CA index name, and its structure diagram
FHITSEQ ----- First HIT RN, its text modification, its CA index name, its structure diagram, plus NTE and SEQ fields
KWIC ----- Hit term plus 20 words on either side
OCC ----- Number of occurrence of hit term and field in which it occurs

To display a particular field or fields, enter the display field codes. For a list of the display field codes, enter HELP DFIELDS at an arrow prompt (=>). Examples of formats include: TI; TI,AU; BIB,ST; TI,IND; TI,SO. You may specify the format fields in any order and the information will be displayed in the same order as the format specification.

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ENTER DISPLAY FORMAT (BIB):end

=> d abs fbib hitstr 23

L7 ANSWER 23 OF 23 CAPLUS COPYRIGHT 2009 ACS on STN
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Phenanthroline derivs. are described by the general formulas I, II, and III (R1-16 = independently selected H, (un)substituted alkyl, (un)substituted aralkyl, (un)substituted aryl, (un)substituted heterocyclic, and halo atom; Ar1-8 = independently selected (un)substituted fluorenyl, (un)substituted fluoranthenyl, (un)substituted perylenyl, and (un)substituted carbazolyl). Organic light-emitting devices using the phenanthroline derivs. (e.g., as an electron-transporting layer or a light-emitting layer) are also described.
AN 2004:267333 CAPLUS Full-text
DN 140:311707
TI Phenanthroline compound and organic light emitting device using same
IN Okajima, Maki; Kawai, Tatsundo; Takiguchi, Takao; Suzuki, Koichi; Senoo, Akihiro; Hasegawa, Toshinori; Okinaka, Keiji

PA Canon Kabushiki Kaisha, Japan
SO PCT Int. Appl., 69 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004026870	A1	20040401	WO 2003-JP11485	20030909
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	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			JP 2002-272408	A 20020919
JP	2004107263	A	20040408	JP 2002-272408	20020919
AU	2003260955	A1	20040408	AU 2003-260955	20030909
				JP 2002-272408	A 20020919
				WO 2003-JP11485	W 20030909
US	20060097227	A1	20060511	US 2005-527192	20050310
				JP 2002-272408	A 20020919
				WO 2003-JP11485	W 20030909

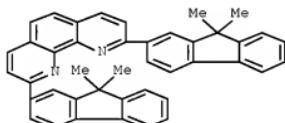
OS MARPAT 140:311707

IT 676542-63-5

RL: DEV (Device component use); USES (Uses)
(phenanthroline derivs. and organic light-emitting devices using them)

RN 676542-63-5 CAPLUS

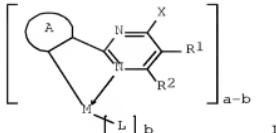
CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)



RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d abs fbib hitstr 1

L7 ANSWER 1 OF 23 CAPLUS COPYRIGHT 2009 ACS on STN
GI



AB Organometallic complexes and an org. light-emitting elements contg. the complexes which have a very high efficiency, a high luminance, and durability are described, where the organometallic complex is represented by formula [I] below where M = IR, Pt, or Au, A is a substituted or unsubstituted aryl group, X is a substituted or unsubstituted group selected from alkyl, aralkyl, alkoxy, aryloxy, aryl, heterocyclic, or a cyano group; R1 and R2 are the same or different, and are each a H, a halogen atom, a substituted or unsubstituted group selected from alkyl, aralkyl, alkoxy, aryloxy, aryl, heterocyclic, amino, or cyano group, or, R1 and R2 may be bonded to each other to form a ring, L is an optionally substituted monoanionic bidentate ligand, a is integer of 1 to 3, b is integer of 0 to 2, and when b is 2, each L may be the same or different. Thus, green-light-emitting devices were demonstrated.

AN 2009:172372 CAPLUS [Full-text](#)

DN 150:249085

TI Organometallic complex and organic light-emitting element using the organometallic complex

IN Yamada, Naoki; Yamaguchi, Tomona; Kamatani, Jun; Nakasu, Minako; Ooishi, Ryota

PA Canon Kabushiki Kaisha, Japan

SO U.S. Pat. Appl. Publ., 23pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20090039776	A1	20090212	US 2008-179899	20080725
				JP 2007-208038	A 20070809

IT JP 2009040728

A 20090226 JP 2007-208038

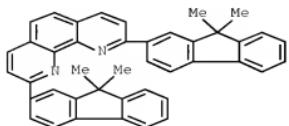
20070809

676542-63-5

RL: TEM (Technical or engineered material use); USES (Uses)
(electron-transporting layer; organometallic complex and organic
light-emitting element using organometallic complex)

RN 676542-63-5 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)



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=> file registry
COST IN U.S. DOLLARS                               SINCE FILE      TOTAL
                                                ENTRY        SESSION
FULL ESTIMATED COST                           13.78          386.94

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)      SINCE FILE      TOTAL
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CA SUBSCRIBER PRICE                          -1.64          -1.64

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DICTIONARY FILE UPDATES: 15 MAR 2009 HIGHEST RN 1121544-94-21

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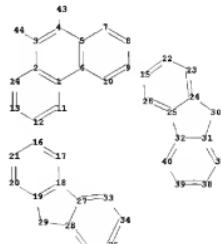
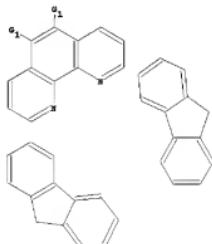
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<http://www.cas.org/support/stnqgen/stndoc/properties.html>

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Uploading C:\Program Files\Stnexp\Queries\10527192.str



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chain nodes :  
43 44  
ring nodes :
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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
chain bonds :
3-44 4-43
ring bonds :
1-2 1-6 1-11 2-3 2-14 3-4 4-5 5-6 5-7 6-10 7-8 8-9 9-10 11-12 12-13
13-14 15-26 15-22 16-21 16-17 17-18 18-19 18-27 19-20 19-29 20-21 22-23
23-24 24-25 24-30 25-26 25-32 27-28 27-33 28-29 28-36 30-31 31-32 31-37
32-40 33-34 34-35 35-36 37-38 38-39 39-40
exact/norm bonds :
3-44 4-43
exact bonds :
18-27 19-29 24-30 25-32 28-29 30-31
normalized bonds :
1-2 1-6 1-11 2-3 2-14 3-4 4-5 5-6 5-7 6-10 7-8 8-9 9-10 11-12 12-13
13-14 15-26 15-22 16-21 16-17 17-18 18-19 19-20 20-21 22-23 23-24 24-25
25-26 27-28 27-33 28-36 31-32 31-37 32-40 33-34 34-35 35-36 37-38 38-39
39-40
isolated ring systems :
containing 1 : 15 : 16 :

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G1:H,Ak

Match level :

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1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS
10:CLASS 11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS
18:CLASS 19:CLASS 20:CLASS 21:CLASS 22:CLASS 23:CLASS 24:CLASS 25:CLASS
26:CLASS 27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS
34:CLASS 35:CLASS 36:CLASS 37:CLASS 38:CLASS 39:CLASS 40:CLASS 43:CLASS
44:CLASS

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L8 STRUCTURE UPLOADED

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=> d 18
L8 HAS NO ANSWERS
L8 STR

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* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

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=> s 18
SAMPLE SEARCH INITIATED 17:26:33 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 94 TO ITERATE

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100.0% PROCESSED 94 ITERATIONS 1 ANSWERS
SEARCH TIME: 00.00.01

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FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 1299 TO 2461
PROJECTED ANSWERS: 1 TO 80

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L9 1 SEA SSS SAM L8

=> s 18 ful
FULL SEARCH INITIATED 17:26:38 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 1611 TO ITERATE

100.0% PROCESSED 1611 ITERATIONS 21 ANSWERS
SEARCH TIME: 00.00.01

L10 21 SEA SSS FUL L8

=> file caplus
COST IN U.S. DOLLARS SINCE FILE TOTAL
ENTRY SESSION
FULL ESTIMATED COST 185.88 572.82

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CA SUBSCRIBER PRICE 0.00 -1.64

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FILE COVERS 1907 - 16 Mar 2009 VOL 150 ISS 12
FILE LAST UPDATED: 15 Mar 2009 (20090315/ED)

Caplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2008.

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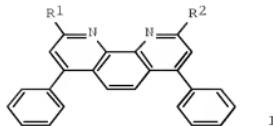
<http://www.cas.org/legal/infopolicy.html>

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 110
L11 31 L10

=> d abs fbib hitstr 31

L11 ANSWER 31 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
GI



AB Bathophenanthroline compds. are described by the general formula I (R1 and R2 = independently selected linear, branched, or cyclic (un)saturated (un)substituted hydrocarbon groups provided that ≥1 of R1 and R2 has ≥2 carbon atoms; or R1 and R2 = independently selected (un)substituted aryl groups). Methods for preparing the compds. are described which entail carrying out a nucleophilic substitution reaction between bathophenanthroline and an appropriate organolithium compound. The compds. may be used as organic layers (e.g., charge transport layers) in electroluminescent devices.

AN 2001:338137 CAPLUS Full-text

DN 134:346297

TI Bathophenanthroline compound and process for preparing same

IN Shibanuma, Tetsuo; Kijima, Yasunori; Asai, Nobutoshi; Tamura, Shinichiro

PA Sony Corporation, Japan

SO Eur. Pat. Appl., 64 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1097980	A2	20010509	EP 2000-123668	20001030
	EP 1097980	A3	20030924		
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	JP 2001131174	A	20010515	JP 1999-312071	19991102
	US 6972334	B1	20051206	US 2000-704968	20001102
	US 20050073641	A1	20050407	JP 1999-312071	A 19991102
				US 2003-656659	20030905
				JP 1999-312071	A 19991102
	US 20040265626	A1	20041230	US 2000-704968	A1 20001102
	US 7186469	B2	20070306	US 2004-798820	20040311
				JP 1999-312071	A 19991102
				US 2000-704968	A1 20001102
	US 20050154208	A1	20050714	US 2005-62076	20050221
				JP 1999-312071	A 19991102
				US 2000-704968	A1 20001102
				US 2003-656659	A3 20030905

PATENT FAMILY INFORMATION:

FAN 2001:261095

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1090911	A2	20010411	EP 2000-121754	20001005
	EP 1090911	A3	20010808		
	EP 1090911	B1	20060830		
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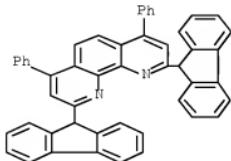
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US	20060178522	A1	20060810	US	2005-153878		20050615	
US	7196225	B2	20070327	JP	1999-285254	A	19991006	
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	EP 1092704	A2	20010418	EP	2000-121753		20001005	
	EP 1092704	A3	20010425					
	EP 1092704	B1	20060308					
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US	6492557	B1	20021210	JP	1999-285255	A	19991006	
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US	20050215811	A1	20050929	US	2000-704968	A3	20001102	
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IT	336734-80-8P			US	2000-680386	A1	20001005	
				US	2002-231419	A1	20020829	

RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)

(bathophenanthroline derivs. and their preparation and use in
electroluminescent devices)

RN 338734-80-8 CAPLUS

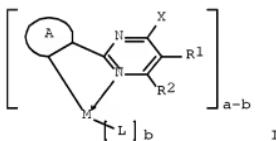
CN 1,10-Phenanthroline, 2,9-di-9H-fluoren-9-yl-4,7-diphenyl- (CA INDEX NAME)



RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d abs fbib hitstr 1-30

L11 ANSWER 1 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
GI



AB Organometallic complexes and an org. light-emitting elements contg. the complexes which have a very high efficiency, a high luminance, and durability are described, where the organometallic complex is represented by formula [I] below where M = IR, Pt, or Au, A is a substituted or unsubstituted aryl group, X is a substituted or unsubstituted group selected from alkyl, aralkyl, alkoxy, aryloxy, aryl, heterocyclic, or a cyano group; R1 and R2 are the same or different, and are each a H, a halogen atom, a substituted or unsubstituted group selected from alkyl, aralkyl, alkoxy, aryloxy, aryl, heterocyclic, amino, or cyano group, or, R1 and R2 may be bonded to each other to form a ring, L is an optionally substituted monoanionic bidentate ligand, a is integer of 1 to 3, b is integer of 0 to 2, and when b is 2, each L may be the same or different. Thus, green-light-emitting devices were demonstrated.

AN 2009:172372 CAPLUS Full-text

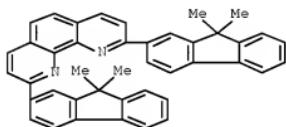
DN 150:249085

TI Organometallic complex and organic light-emitting element using the organometallic complex

IN Yamada, Naoki; Yamaguchi, Tomona; Kamatani, Jun; Nakasu, Minako; Ooishi,

Ryota
 PA Canon Kabushiki Kaisha, Japan
 SO U.S. Pat. Appl. Publ., 23pp.
 CODEN: USXXCO
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20090039776	A1	20090212	US 2008-179899	20080725
				JP 2007-208038	A 20070809
IT	JP 2009040728	A	20090226	JP 2007-208038	20070809
IT	676542-63-5				
	RL: TEM (Technical or engineered material use); USES (Uses) (electron-transporting layer; organometallic complex and organic light-emitting element using organometallic complex)				
RN	676542-63-5 CAPLUS				
CN	1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)				



L11 ANSWER 2 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
 AB The devices have, between pair of electrodes, electron-injecting layers containing P ylides represented by R5(R1R2P+C-R3R4)m or (R6R7R8P+C-R9)LR10 [R1, R2, R5-R8 = aryl, heterocycle, condensed polycyclic aromatic group; R3, R4, R9 = H, (ar)alkyl, alkenyl, etc.; R10 = 2-4-valent group; m = 1-4; L = 2-4] and optionally organic compds., e.g., N-containing organic bases. The ylides have similar deposition temperature to those of other organic sources, thus giving layers with less damages. The devices emit light with high brightness and high efficiency.

AN 2008:1483502 CAPLUS [Full-text](#)

DN 150:44063

TI Organic electroluminescent devices containing chemically stable phosphorus ylides in electron-injecting layers

IN Okajima, Aki; Saito, Akito; Abe, Shigemiki; Yajima, Masataka

PA Canon Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 29pp.

CODEN: JKXXAF

DT Patent

LA Japanese

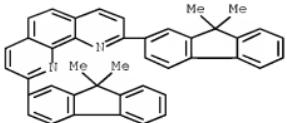
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2008300586	A	20081211	JP 2007-144439	20070531
				JP 2007-144439	20070531

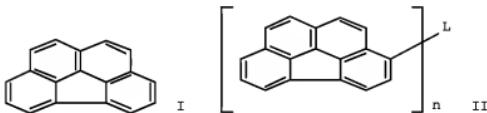
IT 676542-63-5

RL: TEM (Technical or engineered material use); USES (Uses)
(electron-injecting layer; high-luminance and -efficiency organic EL

devices containing chemical stable phosphorus ylides in electron-injecting layers)
RN 676542-63-5 CAPLUS
CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)



L11 ANSWER 3 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
GI



AB This invention provides an org. light emitting device with high color purity, high efficiency, high luminance, and a long life, the organic light emitting device including: a pair of electrodes having an anode and a cathode, and at least one layer containing an organic compound sandwiched between the pair of electrodes, at least one of the anode and the cathode being transparent or translucent, in which at least one layer containing an organic compound contains at least one kind of the benzo[ghi]fluoranthenone derivative represented as I or II substituted at each position by an R group which may be, independently, e.g., H, C₂-20 alkyl, (un)substituted alkenyl; n = 2-4, L represents a single bond or divalent to tetravalent connecting group derived from, e.g., (un)substituted alkane, alkene, alkyne. Thus, e.g., tert-butylation of benzo[ghi]fluoranthenone with t-BuCl in presence of AlCl₃ afforded a mixture of tetra- and pentasubstituted derivs. which was fractionated by column chromatog. An OLED fabricated with the following film layers: ITO; 75:25 (by volume) bis(2,7-di-tert-butyl-9,9-dimethylfluoren-4-yl)(9,9-dimethylfluoren-2-yl)amine (as hole transporting material):tetra-tert-butylbenzo[ghi]fluoranthenone (as light emitter); 2,9-bis[2-(9,9-dimethylfluoren-2-yl)]-1,10-phenanthroline (electron transport layer); LiF; and Al provided blue light emission of 300 cd/m² at 6 V.

AN 2008:1398625 CAPLUS Full-text

DN 149:585012

TI Benzo[ghi]fluoranthenone derivative and blue-emitting organic light emitting device using the same

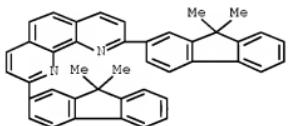
IN Muratsubaki, Masanori; Saitoh, Akihito; Igawa, Satoshi; Takiguchi, Takao; Okada, Shinjiro

PA Canon Kabushiki Kaisha, Japan

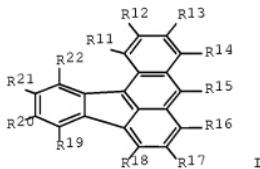
SO U.S. Pat. Appl. Publ., 35pp.

CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20080286611	A1	20081120	US 2008-118227	20080509
JP	2008280312	A	20081120	JP 2007-127794	A 20070514
IT	676542-63-5			JP 2007-127794	20070514
RL:	TEM (Technical or engineered material use); USES (Uses) (electron transporting material; benzo(ghi)fluoranthene derivative and blue-emitting organic light emitting device using the same)				
RN	676542-63-5	CAPLUS			
CN	1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)				



L11 ANSWER 4 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
GI



AB Luminescent benzo[a]fluoranthene compd. are represented by the formula (I) where at least one of R11-22 is represented by -Arl-Xl where Arl represents any one of the following groups (i-a) to (i-c): (i-a) a substituted or unsubstituted phenylene group, (i-b) a substituted or unsubstituted monocyclic heterocyclic group, and (i-c) a composite substituent formed of two substituents selected from substituents corresponding to the groups (i-a) and (i-b); and Xl represents a substituted or unsubstituted alkyl group having 2 or more carbon atoms, a substituted or unsubstituted alkenyl group, or a substituted or unsubstituted alkynyl group; and R11-22 none of which is represented by -Arl-Xl each may be identical to or different from each other and each represent a hydrogen atom, a halogen atom or the like. Thus, green-

emitting OLED using the benzo[a]fluoranthenone compound in the emitting layer were demonstrated.

AN 2008:1398593 CAPLUS Full-text

DN 149:566825

TI Benzo[a]fluoranthenone compound and organic light emitting device using the benzo[a]fluoranthenone compound

IN Horiuchi, Takayuki; Yamada, Naoki; Igawa, Satoshi; Hashimoto, Masashi; Nakasu, Minako; Kamatani, Jun; Okada, Shinjiro

PA Canon Kabushiki Kaisha, Japan

SO PCT Int. Appl., 38pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2008140133	A1	20081120	WO 2008-JP59392	20080515
	W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM		JP 2007-130526	A 20070516
				JP 2008-95675	A 20080402
JP	2008308487	A	20081225	JP 2008-95675	20080402
				JP 2007-130526	A 20070516

PATENT FAMILY INFORMATION:

FAN 2008:1398000

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2008140134	A1	20081120	WO 2008-JP59393	20080515
	W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM		JP 2007-130526	A 20070516
				JP 2008-95673	A 20080402
JP	2008308485	A	20081225	JP 2008-95673	20080402
				JP 2007-130526	A 20070516

FAN 2008:1398438

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2008140132	A1	20081120	WO 2008-JP59391	20080515
	W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES,				

FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG,
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 MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL,
 PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN,
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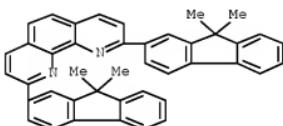
JP 2008308486 A 20081225	JP 2007-130526 A 20070516
	JP 2008-95674 A 20080402
	JP 2008-95674 A 20080402
	JP 2007-130526 A 20070516

IT 676542-63-5

RL: TEM (Technical or engineered material use); USES (Uses)
 (electron-transporting layer; benzo[a]fluoranthene compound and organic
 light emitting device using benzo[a]fluoranthene compound)

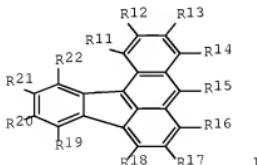
RN 676542-63-5 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 5 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
GI



AB Provided are a novel benzo[a]fluoranthene compd. and an org. light emitting device having extremely good light emitting efficiency, extremely good luminance, and durability. The benzo[a]fluoranthene compound is represented by the following general formula (I) where at least one of R11-22 represents -

X1-Ar1 where X1 represents a substituted or unsubstituted phenylene group, or a substituted or unsubstituted, divalent monocyclic heterocyclic group, and Ar1 represents one of the following groups (a) and (b): (a) a substituted or unsubstituted fused polycyclic group, and (b) a composite substituent formed by combining two or more of a benzene ring, a monocyclic heterocyclic ring, and a fused polycyclic ring, the composite substituent being permitted to have a substituent. Thus, an efficient green-emitting device employing a benzo[*a*]fluoranthene compound as light-emitting material was demonstrated.

AN 2008:1398438 CAPLUS [Full-text](#)

DN 149:566816

TI Benzo[*a*]fluoranthene compound and organic light emitting device using the benzo[*a*]fluoranthene compound

IN Yamada, Naoki; Igawa, Satoshi; Hashimoto, Masashi; Nakasu, Minako; Horiuchi, Takayuki; Kamatani, Jun; Okada, Shinjiro

PA Canon Kabushiki Kaisha, Japan

SO PCT Int. Appl., 42pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2008140132	A1	20081120	WO 2008-JP59391	20080515
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	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			JP 2007-130526	A 20070516
				JP 2008-95674	A 20080402
JP	2008308486	A	20081225	JP 2008-95674	20080402
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PATENT FAMILY INFORMATION:

FAN 2008:1398000

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2008140134	A1	20081120	WO 2008-JP59393	20080515
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	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			JP 2007-130526	A 20070516
				JP 2008-95673	A 20080402
JP	2008308485	A	20081225	JP 2008-95673	20080402
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FAN 2008:1398593

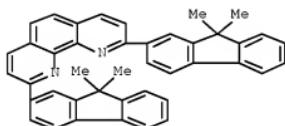
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2008140133	A1	20081120	WO 2008-JP59392	20080515
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RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			JP 2007-130526 JP 2008-95675	A 20070516 A 20080402
JP 2008308487	A	20081225	JP 2008-95675 JP 2007-130526	20080402 A 20070516

IT 676542-63-5

RL: TEM (Technical or engineered material use); USES (Uses)
(electron-transporting layer; benzo[a]fluoranthenene compound and OLED
using benzo[a]fluoranthenene compound)

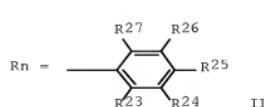
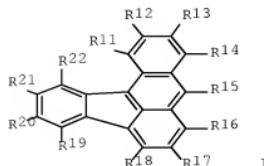
RN 676542-63-5 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 6 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
GI



AB Benzo[a]fluoranthene compd. is described by the following general formula (I) where at least one of R14, R15, R16, R20, and R21 represents Rn represented by the following general formula (II), and R11-22 none of which is represented by Rn each represent a hydrogen atom, a halogen atom or the like, and R11-22 none of which is represented by Rn may be identical to or different from one another; where R23-27 each represent a hydrogen atom, a halogen atom or the like, and may be identical to or different from one another, provided that, in at least one pair of adjacent substituents out of R23-26, the substituents are bonded to each other to form a ring. Thus, efficient green-emitting luminescent devices employing a benzo[a]fluoranthene compound in luminescent layer were demonstrated.

AN 2008:1398000 CAPLUS Full-text

DN 149:566803

TI Benzo[a]fluoranthene compound and organic light emitting device using the benzo[a]fluoranthene compound

IN Yamada, Naoki; Igawa, Satoshi; Hashimoto, Masashi; Nakasu, Minako; Horiuchi, Takayuki; Kamatani, Jun; Okada, Shinjiro

PA Canon Kabushiki Kaisha, Japan

SO PCT Int. Appl., 55pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 3

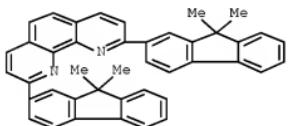
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PI WO 2008140134	A1	20081120	WO 2008-JP59393	20080515
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JP 2008308485	A	20081225	JP 2008-95673 JP 2007-130526	20080402 A 20070516

PATENT FAMILY INFORMATION:

FAN 2008:1398438

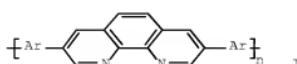
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2008140132	A1	20081120	WO 2008-JP59391	20080515
W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,				

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			JP 2008-95674	A 20080402
JP 2008308486	A 20081225		JP 2008-95674	20080402
			JP 2007-130526	A 20070516
FAN	2008:1398593			
	PATENT NO.	KIND	DATE	APPLICATION NO.
PI	WO 2008140133	A1	20081120	WO 2008-JP59392 20080515
	W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM		JP 2007-130526	A 20070516
			JP 2008-95675	A 20080402
JP 2008308487	A 20081225		JP 2008-95675	20080402
			JP 2007-130526	A 20070516
IT	676542-63-5			
	RL: TEM (Technical or engineered material use); USES (Uses) (electron-transporting layer; luminescent benzo[a]fluoranthen compound and OLED using benzo[a]fluoranthen compound)			
RN	676542-63-5 CAPLUS			
CN	1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)			



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 7 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
GI



AB The title phenanthroline polymer I (Ar = thiophene, carbazole, diphenylamine, triphenylamine, fluorene and their derivs.; n = 3-20) is prepared by an electrochem. oxidation polymerizing an active monomer. The polymer can be used in electrochromic devices, and reversibly be oxidized and reduced with different colors, good stability, and short response time. A deposition film of the polymer can directly be obtained by an electrochem. method, and the thickness of the film can be modulated according to the deposition mode.

AN 2008:1313302 CAPLUS [Full-text](#)

DN 149:577169

TI Preparation and application of electrochromic polymer

IN Zhang, Cheng; Xu, Yi; Wang, Nachuan; Ma, Chunan

PA Zhejiang University of Technology, Peop. Rep. China

SO Faming Zhanli Shenqing Gongkai Shuomingshu, 22pp.

CODEN: CNXXEV

DT Patent

LA Chinese

FAN.CNT 1

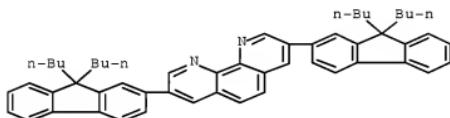
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CN 101293961	A	20081029	CN 2008-10108104 CN 2008-10060945	20080521 A 20080408

IT 1083197-25-4P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation of electrochromic polymer by electrochem. oxidative polymerization for electrochromic devices)

RN 1083197-25-4 CAPLUS

CN 1,10-Phenanthroline, 3,8-bis(9,9-dibutyl-9H-fluoren-2-yl)- (CA INDEX NAME)



IT 1083197-27-6P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of electrochromic polymer by electrochem. oxidative polymerization for electrochromic devices)

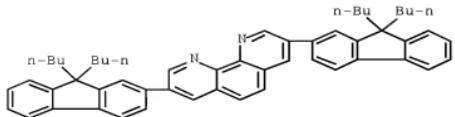
RN 1083197-27-6 CAPLUS

CN 1,10-Phenanthroline, 3,8-bis(9,9-dibutyl-9H-fluoren-2-yl)-, homopolymer (CA INDEX NAME)

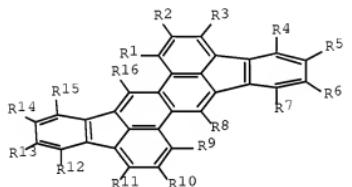
CM 1

CRN 1083197-25-4

CMF C54 H56 N2



L11 ANSWER 8 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
GI



AB A condensed ring arom. compd. for an org. light-emitting device is described represented by the following general formula I wherein R1 to R16 each independently represent a hydrogen atom, a halogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkoxy group, a substituted or unsubstituted aryloxy group, a substituted or unsubstituted amino group, a substituted or unsubstituted aryl group, or a substituted or unsubstituted heterocyclic group, and may be the same or different. An organic light-emitting device comprising the condensed ring aromatic compound for a light emitting layer is also described.

AN 2008:1211007 CAPLUS Full-text

DN 149:457994

TI Condensed ring aromatic compound for organic light-emitting device and organic light-emitting device having the same

IN Negishi, Chika; Saitoh, Akihito; Ohru, Hiroki; Iwawaki, Hironobu; Muratsubaki, Masanori

PA Canon Kabushiki Kaisha, Japan

SO PCT Int. Appl., 84pp.

CODEN: PIXKD2

DT Patent

LA English

FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2008120808	A1	20081009	WO 2008-JP56632	20080327
W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HE, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL,				

PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, T2, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM	JP 2007-96343 JP 2008-38299 A 20070402 A 20080220
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PATENT FAMILY INFORMATION:

FAN 2008:1210631

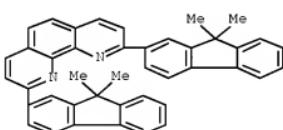
PATENT NO.		KIND	DATE	APPLICATION NO.	DATE
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PI	WO 2008120806	A1	20081009	WO 2008-JP56615	20080327
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				JP 2007-96343	A 20070402
				JP 2008-38298	A 20080220

IT 676542-63-5

RL: TEM (Technical or engineered material use); USES (Uses)
(condensed ring aromatic compound for organic light-emitting device and
organic

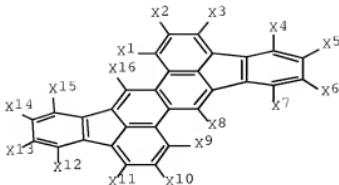
organic light-emitting diodes

RN 676542-63-5 CAPLUS
CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 9 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
GI



I

AB A condensed ring arom. compd. for an org. light-emitting device is described represented by the following general formula I wherein X1 to X16 each independently represent a hydrogen atom, a halogen atom, a substituted or unsubstituted alkyl group, a substituted, or unsubstituted alkoxy group, a substituted or unsubstituted aryloxy group, a substituted or unsubstituted amino group, a substituted or unsubstituted aryl group, or a substituted or unsubstituted heterocyclic group, and each may be the same or different; adjacent groups combine with each other to form at least one ring in the group selected from X4 to X7; and adjacent groups combine with each other to form at least one ring in the group selected from X12 to X15. An organic light-emitting device comprising the condensed ring aromatic compound for a light emitting layer is also described.

AN 2008:1210631 CAPLUS Full-text

DN 149:457993

TI Novel condensed ring aromatic compound and organic light-emitting device having the same

IN Negishi, Chika; Saitoh, Akihito; Ohru, Hiroki; Iwawaki, Hironobu; Muratsubaki, Masanori

PA Canon Kabushiki Kaisha, Japan

SO PCT Int. Appl., 54pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2008120806	A1	20081009	WO 2008-JP56615	20080327
	W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
				JP 2007-96343	A 20070402
				JP 2008-38298	A 20080220

PATENT FAMILY INFORMATION:

FAN 2008:1211007

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

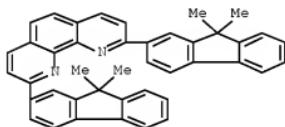
PI WO 2008120808 A1 20081009 WO 2008-JP56632 20080327
 W: AB, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
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 FI, GB, GD, GE, GH, GM, GT, HN, HR, ID, IL, IN, IS, KE, KG,
 KM, KN, KP, KR, KZ, LA, LC, LR, LS, LT, LU, LY, MA, MD, ME,
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 AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 JP 2007-96343 A 20070402
 JP 2008-38299 A 20080220

IT 676542-63-5

RL: TEM (Technical or engineered material use); USES (Uses)
(condensed ring aromatic compound for organic light-emitting device and
organic
light-emitting device having the same)

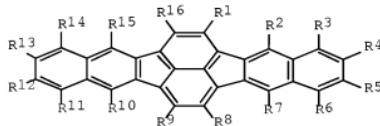
RN 676542-63-5 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX
NAME)



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 10 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
GI



AB There are provided a novel fused ring arom. compd. represented by the general formula (I) and an organic light-emitting device which has an optical output with extremely high efficiency and luminance, and also has extremely high durability; where R1-16 each represent, independently of one another, a

hydrogen atom, an alkyl group, a substituted or unsubstituted aralkyl group, a substituted or unsubstituted aryl group, a substituted or unsubstituted heterocyclic group, a substituted amino group, or a halogen atom; provided that at least one of combinations of R1 and R9, R2 and R10, R3 and R11, R4 and R12, R5 and R13, R6 and R14, R7 and R15, and R8 and R16, is a combination of different substituents.

AN 2008:1127993 CAPLUS Full-text

DN 149:366002

TI Fused ring aromatic compound and organic light-emitting devices using the aromatic compound as emitting dopant

IN Igawa, Satoshi; Hashimoto, Masashi; Okada, Shinjiro; Takiguchi, Takao; Okinaka, Keiji

PA Canon Kabushiki Kaisha, Japan

SO PCT Int. Appl., 67pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2008111540	A1	20080918	WO 2008-JP54222	20080303
	W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			JP 2007-60609 JP 2008-23231	A 20070309 A 20080201
JP	2008255095	A	20081023	JP 2008-23231 JP 2007-60609	20080201 A 20070309

PATENT FAMILY INFORMATION:

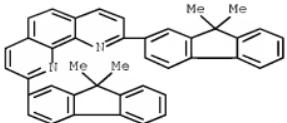
FAN 2008:1122432

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2008111543	A1	20080918	WO 2008-JP54226	20080303
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	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			JP 2007-60609 JP 2008-23232	A 20070309 A 20080201
JP	2008258580	A	20081023	JP 2008-23232 JP 2007-60609	20080201 A 20070309

IT 676542-63-5

RL: TEM (Technical or engineered material use); USES (Uses)

(electron-transporting layer; fused ring aromatic compound and organic green-emitting devices using the aromatic compound as emitting dopant)
RN 676542-63-5 CAPLUS
CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)



RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 11 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

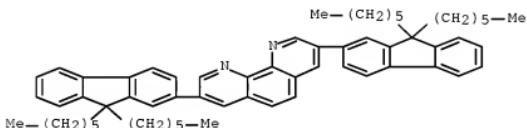
AB The synthesis, characterization, photophys., and electrochem. properties of a series of cationic cyclometalated IrIII complexes of general formula [Ir(ppyl₂(phen))PF₆] (ppy = 2-phenylpyridine, phen = a substituted phenanthroline) is reported. A feature of these complexes is that the phen ligands are substituted with one or two 9,9-dihexylfluorenyl substituents to provide extended π conjugation, for example, the 3-[2-(9,9-dihexylfluorenyl)]phenanthroline and 3,8-bis[2-(9,9-dihexylfluorenyl)]phenanthroline ligands afford complexes 6 and 9, resp. A single-crystal x-ray diffraction study of a related complex containing the 3,8-bis(4-iodophenyl)phenanthroline ligand, revealed an octahedral coordination of the Ir atom, in which the metalated C atoms of the ppy ligands occupy cis positions. The complexes 6 and 9 displayed reversible oxidation waves in cyclic voltammetric studies ($E_{1/2ox} = +1.18$ and $+1.20$ V, resp., vs. Ag/Ag⁺ in CH₃Cl₂) assigned to the metal-centered IrIII/IrIV couple. The complexes exhibit strong absorption in the UV region in solution spectra, due to spin-allowed ligand-centered (LC) $1\pi \rightarrow \pi^*$ transitions; moderately intense bands occur at approx. 360–390 nm which are red-shifted with increased ligand length. The photoluminescence spectra of all the complexes were characterised by a broad band at $\lambda_{max} \approx 595$ nm assigned to a combination of 3MLCT and $3\pi \rightarrow \pi^*$ states. The long emission lifetimes (in the microsecond time-scale) are indicative of phosphorescence; the increased ligand conjugation length in complexes leads to increased lifetimes for the complexes ($\tau = 2.56$ and 2.57 μ s in MeCN, resp.) compared to monofluorenyl analogs ($\tau = 1.43$ and 1.39 μ s, resp.). DFT calcns. of the geometries and electronic structures of complexes (for both singlet ground state (S₀) and triplet first excited (T₁) states) have been performed. In the singlet ground state (S₀) HOMO orbitals in the complexes are spread between the Ir atom and benzene rings of the phenylpyridine ligand, whereas the LUMO is mainly located on the phenanthroline ligand. Anal. of orbital localizations for the first excited (T₁) state have been performed and compared with spectroscopic data. Spin-coated light-emitting cells (LECs) have been fabricated with the device structures ITO/PEDOT:PSS/Ir complex/Al, or Ba capped with Al (ITO = indium tin oxide, PEDOT = poly(3,4-ethylene-dioxythiophene), PSS = poly(styrene)sulfonate).

AN 2008:493046 CAPLUS [Full-text](#)

DN 149:54075

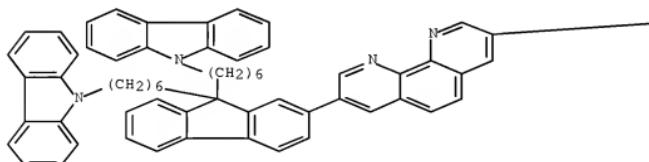
TI Cationic bis-cyclometalated iridium(III) phenanthroline complexes with pendant fluorenyl substituents: synthesis, redox, photophysical properties

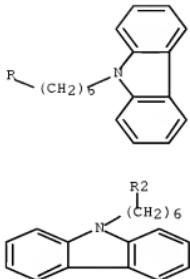
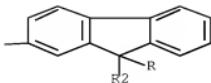
and light-emitting cells
 AU Zeng, Xianshun; Tavasli, Mustafa; Perepichka, Igor F.; Batsanov, Andrei S.; Bryce, Martin R.; Chiang, Chien-Jung; Rothe, Carsten; Monkman, Andrew P.
 CS Department of Chemistry, Durham University, Durham, DH1 3LE, UK
 SO Chemistry--A European Journal (2008), 14(3), 933-943
 CODEN: CEUJED; ISSN: 0947-6539
 PB Wiley-VCH Verlag GmbH & Co. KGaA
 DT Journal
 LA English
 OS CASREACT 149:54075
 IT 1032392-68-9P 1032392-82-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation, photophys., and light-emitting cell properties of cationic phenylpyridine bis-cyclometalated iridium pendant fluorenyl phenanthroline complexes)
 RN 1032392-68-9 CAPLUS
 CN 1,10-Phenanthroline, 3,8-bis(9,9-dihexyl-9H-fluoren-2-yl)- (CA INDEX NAME)



RN 1032392-82-7 CAPLUS
 CN 1,10-Phenanthroline, 3,8-bis[9,9-bis[6-(9H-carbazol-9-yl)hexyl]-9H-fluoren-2-yl]- (CA INDEX NAME)

PAGE 1-A

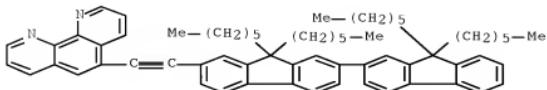




RE.CNT 66 THERE ARE 66 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

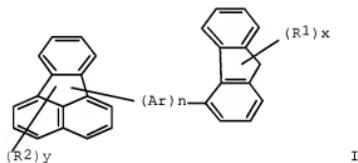
L11 ANSWER 12 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
 AB The synthesis and characterization of new 1,10-phenanthroline-based chromophores LT1, LT2 and LD1 featuring fluorene unit(s) are reported. Their absorption and emission as well as their two-photon absorption properties in the 450-650 nm spectral range are discussed in comparison with the parent 1,10-phenanthroline and already described ligands L1 and L2.
 AN 2008:231330 CAPLUS [Full-text](#)
 DN 148:428478
 TI Novel 5-(oligofluorenyl)-1,10-phenanthroline type ligands: synthesis, linear and two-photon absorption properties
 AU Girardot, C.; Lemercier, G.; Mлатtier, J.-C.; Andraud, C.; Chauvin, J.; Baldeck, P. L.
 CS Ecole Normale Supérieure de Lyon, CNRS, Laboratoire de Chimie, Université de Lyon, Lyon, F-69364, Fr.
 SO Tetrahedron Letters (2008), 49(11), 1753-1758
 CODEN: TELEAY; ISSN: 0040-4039
 PB Elsevier Ltd.
 DT Journal
 LA English
 OS CASREACT 148:428478
 IT 1018071-52-7/P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (synthesis, linear and two-photon absorption properties of
 (oligofluorenyl)phenanthroline type ligands)
 RN 1018071-52-7 CAPLUS

CN 1,10-Phenanthroline, 5-[2-(9,9,9',9'-tetrahexyl[2,2'-bi-9H-fluoren]-7-yl)ethynyl] - (CA INDEX NAME)



RE.CNT 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 13 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
GI



AB The present invention provides a high-performance org. light-emitting device based on a novel 4-arylfluorene organic compound having the following general formula (I); where n represents an integer of 0 to 10; when n represents 0, Ar represents a direct bond between a fluorene group and a fluoranthene group; when n represents an integer of 1 to 10, Ar represents a substituted or unsubstituted, divalent aralkylene group, a substituted or unsubstituted, divalent arylene group, or a substituted or unsubstituted, divalent heterocyclic group; when n represents an integer of 1 to 10, Ar's may be the same as or different from each other; R1 and R2 each represent a substituted or unsubstituted group such as alkyl, aralkyl, alkoxy, aryl, heterocyclic, amino; a cyano group, or a halogen group, and R1 and R2 may be the same as or different from each other; x and y each represent an integer of 0 to 9; and when x or y represents an integer of 2 or more, R1s or R2s may be the same as or different from each other, or R1s or R2s may be bonded to each other to form a ring. The organic light-emitting device of the present invention is an organic light-emitting device including: a pair of electrodes comprising an anode and a cathode; and an organic compound layer interposed between the pair of electrodes, where the organic compound layer contains the 4-arylfluorene compound. Thus, blue-emitting organic light-emitting devices were fabricated and characterized.

AN 2007:1277963 CAPLUS Full-text

DN 147:511324

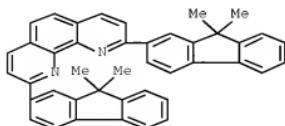
TI 4-Arylfluorene compound and organic light-emitting devices employing the 4-arylfluorene compound as an emitting layer

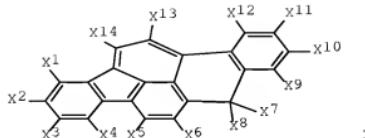
IN Yamada, Naoki; Saitoh, Akihito; Kamatani, Jun; Igawa, Satoshi; Okada,

Shinjiro
 PA Canon Kabushiki Kaisha, Japan
 SO PCT Int. Appl., 49pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2007125809	A1	20071108	WO 2007-JP58476	20070412
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UV, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			JP 2006-123784 JP 2006-310380	A 20060427 A 20061116
JP 2007314506	A	20071206	JP 2006-310380 JP 2006-123784	20061116 A 20060427
EP 2013158	A1	20090114	EP 2007-741912	20070412
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, RS			JP 2006-123784 JP 2006-310380 WO 2007-JP58476	A 20060427 A 20061116 W 20070412
KR 2009008411	A	20090121	KR 2008-728869 JP 2006-123784 JP 2006-310380 WO 2007-JP58476	20081126 A 20060427 A 20061116 W 20070412

OS MARPAT 147:511324
 IT 676542-63-5
 RL: TEN (Technical or engineered material use); USES (Uses)
 (electron-transporting layer; blue-emitting 4-arylfluorene compound for
 use in organic light-emitting devices employing)
 RN 676542-63-5 CAPLUS
 CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX
 NAME)





I

AB A fluoranthene compd. with 6 fused rings I [X1-14 = H, halo, straight-chain, branched or cyclic alkyl,(un)substituted aryl, alkoxy, heterocycle, amino or cyano; and adjacent groups may join to form rings] is used in an organic light-emitting device.

AN 2007:1242933 CAPLUS [Full-text](#)

DN 147:493819

TI Organic compound and organic light-emitting element

IN Negishi, Chika; Takiguchi, Takao; Igawa, Satoshi; Kamatani, Jun; Yamada, Naoki

PA Canon Kabushiki Kaisha, Japan

SO U.S. Pat. Appl. Publ., 22pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20070252141	A1	20071101	US 2007-736862	20070418
	JP 2007297302	A	20071115	JP 2006-125012	A 20060428
	JP 4164514	B2	20081015	JP 2006-125012	20060428

OS MARPAT 147:493819

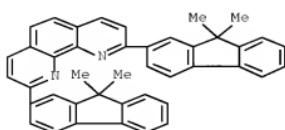
IT 676542-63-5

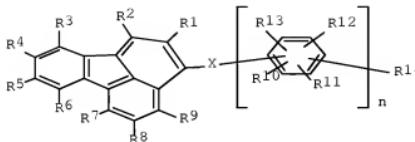
RL: PRPH (Prophetic)

(Organic compound and organic light-emitting element)

RN 676542-63-5 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)





I

AB Fluoranthene derivs. represented by the general formula (I) and org. light-emitting elements using the fluoranthene derivs. as a light-emitting layer or a charge transport layer are provided, where X represents an unsubstituted phenylene group; R1-14 each independently represent a hydrogen atom, a halogen atom, a substituted or an unsubstituted amino group, or a linear, branched, or cyclic alkyl group having 1 to 20 carbon atoms, wherein in the alkyl group, one methylene group or at least two methylene groups which are not adjacent to each other may be substituted with -O-, at least one methylene group may be substituted with an arylene group or a divalent heterocyclic group and a hydrogen atom of the alkyl group may be substituted with a fluorine atom; and n represents an integer from 1 to 10.

AN 20071215715 CAPLUS Full-text

DN 147:493783

TI Fluoranthene derivatives and organic light-emitting elements employing the fluoranthene derivatives as a light-emitting layer or a charge transport layer

IN Iwawaki, Hironobu; Negishi, Chika; Okada, Shinjiro; Takiguchi, Takao; Senoo, Akihiro; Hashimoto, Masashi

PA Canon Kabushiki Kaisha, Japan

SO U.S. Pat. Appl. Publ., 15pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20070249878	A1	20071025	US 2007-737798	20070420
				JP 2006-120805	A 20060425
JP	2007291012	A	20071108	JP 2006-120805	20060425

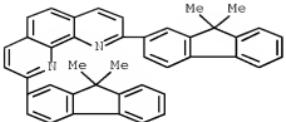
OS MARPAT 147:493783

IT 676542-63-5

RL: TEM (Technical or engineered material use); USES (Uses)
(electron-transporting layer; fluoranthene derivs. and organic
light-emitting elements employing the fluoranthene derivs. as
light-emitting layer or charge transport layer)

RN 676542-63-5 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX
NAME)



L11 ANSWER 16 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

AB The invention relates to a full color org. light emitting element array having red-, green-, and blue-pixels, wherein the glass transition temperature difference between the pixels is less than 10°.

AN 2007:1151615 CAPLUS Full-text

DN 147:459016

TI Full color organic light emitting element array with improved high temperature performance and durability

IN Hiraoka, Mitsuho; Senoo, Akihiro

PA Canon Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 16pp.

CODEN: JKXXAF

DT Patent

LA Japanese

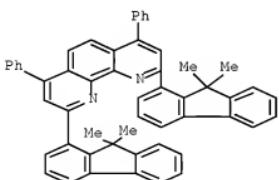
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2007266161	A	20071011	JP 2006-87018 JP 2006-87018	20060328 20060328
IT	952062-18-9				

RL: TEM (Technical or engineered material use); USES (Uses)
(in electron transport layer; full color organic light emitting element array with improved high temperature performance and durability)

RN 952062-18-9 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-1-yl)-4,7-diphenyl-
(CA INDEX NAME)



L11 ANSWER 17 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

AB An org. electroluminescence device is described comprising a pair of electrodes formed of an anode and a cathode; and an organic compound layer provided between the pair of electrodes, in which the organic electroluminescence device contains a cesium suboxide in which an element ratio A/B calculated from an area ratio of a peak A at a binding energy of

726.0 eV ± 0.5 eV corresponding to a Cs3d5 orbital measured by XPS to a peak B at a binding energy of 531.0 eV ± 0.5 eV corresponding to an O1s orbital measured by the XPS is in a range of 3.1-7.3 or preferably 3.1-4.2, where the organic electroluminescence device has excellent light emitting property that is not largely impaired even after the device is driven for a long time period.

AN 2007:1146673 CAPLUS Full-text

DN 147:436504

TI Organic electroluminescence device and light emitting apparatus

IN Nakamura, Shinichi; Miura, Seishi

PA Canon Kabushiki Kaisha, Japan

SO PCT Int. Appl., 41pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2007113984	A1	20071011	WO 2007-JP54599	20070302
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			JP 2006-97177	A 20060331
JP 2007273702	A	20071018	JP 2006-97177	20060331
CN 101341607	A	20090107	CN 2007-80000867	20080226
			JP 2006-97177	A 20060331
			WO 2007-JP54599	W 20070302

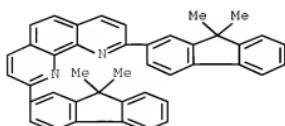
IT 676542-63-5

RL: TEM (Technical or engineered material use); USES (Uses)
(electron injection layer; organic electroluminescence device having
organic

compound layer containing cesium suboxide)

RN 676542-63-5 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX
NAME)



RE.CNT 6

THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 18 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

AB A full-color org. electroluminescent panel is described comprising red (R), green (G), and blue (B) color pixels that independently emit light, where the organic electroluminescent panel includes a hole-injecting layer common to the red (R), green (G), and blue (B) color pixels and a plurality of hole-transporting layers, and where the hole-transporting layer in at least one of the red (R), green (G), or blue (B) color pixels differs from a corresponding hole-transporting layer in the remaining pixels.

AN 2007:1121151 CAPLUS [Full-text](#)

DN 147:437030

TI Full-color organic electroluminescent panel

IN Iwawaki, Hironobu; Okada, Shinjiro; Takiguchi, Takao; Igawa, Satoshi

PA Canon Kabushiki Kaisha, Japan

SO U.S. Pat. Appl. Publ., 21pp.

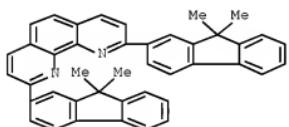
CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20070228399	A1	20071004	US 2007-689612	20070322
OS	JP 2007265763	A	20071011	JP 2006-88353	A 20060328
IT	MARPAT 147:437030 676542-63-5			JP 2006-88353	20060328
RL	MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)				
	(electron-injecting layer; full-color organic electroluminescent panel having common hole-injecting layer and not-common hole-transporting layer)				
RN	676542-63-5 CAPLUS				
CN	1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)				



L11 ANSWER 19 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

AB An org. electroluminescent device includes an anode, a cathode, a luminescent layer disposed between the anode and the cathode, and a hole-transporting layer disposed between the anode and the cathode. The luminescent layer includes a first sublayer made of a first metal complex and a second sublayer made of a second metal complex. The second sublayer is disposed further from the hole-transporting layer than the first sublayer.

AN 2007:1120116 CAPLUS [Full-text](#)

DN 147:416663

TI Organic electroluminescent device and display apparatus

IN Nakasu, Minako; Igawa, Satoshi; Kamatani, Jun; Ooishi, Ryota; Takiguchi, Takao; Okada, Shinjiro

PA Canon Kabushiki Kaisha, Japan

SO U.S. Pat. Appl. Publ., 11pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

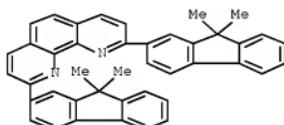
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20070231601	A1	20071004	US 2007-690166 JP 2006-87017 JP 2007-26680	20070323 A 20060328 A 20070206
	JP 2007294402	A	20071108	JP 2007-26680 JP 2006-87017	20070206 A 20060328

IT 676542-63-5

RL: TEM (Technical or engineered material use); USES (Uses)
(organic electroluminescent device and display apparatus)

RN 676542-63-5 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)



L11 ANSWER 20 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

AB Org. electroluminescent devices are described which comprise a pair of electrodes formed of an anode and a cathode; and an organic compound layer provided between the pair of electrodes, in which: the organic compound layer contains a metal so that the metal partially forms a coordination bond with an organic compound; and a ratio of the number of metal atoms involved in the coordination to the total number of metal atoms in the layer is 0.11 or more to 0.42 or less. The organic electroluminescent device has excellent light emitting property that is not largely impaired even after the device is driven for a long time period.

AN 2007:1120093 CAPLUS [Full-text](#)

DN 147:436475

TI Organic electroluminescent device and light emitting apparatus employing an organic layer with partially coordinated metal atoms

IN Nakamura, Shinichi; Miura, Seishi

PA Canon Kabushiki Kaisha, Japan

SO U.S. Pat. Appl. Publ., 16pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20070231599	A1	20071004	US 2007-681273 JP 2006-97178	20070302 A 20060331
	JP 2007273703	A	20071018	JP 2006-97178	20060331

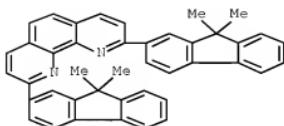
IT 676542-63-5

RL: TEM (Technical or engineered material use); USES (Uses)

(electron-transporting layer; organic electroluminescent device and light emitting apparatus employing organic layer with partially coordinated metal atoms)

RN 676542-63-5 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)



L11 ANSWER 21 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

AB An org. light emitting device array is described comprising org. light emitting devices having each emitting color, the organic light emitting devices each comprising a pair of electrodes, a hole transport layer, a light emitting layer and an electron transport layer, wherein the hole transport layer contacts with the light emitting layer; the light emitting layer contacts with the electron transport layer; and the light emitting layer has a guest material contained in a host material, and wherein each of the organic light emitting devices has an ionization p.d. of not more than 0.2 eV between a material constituting the hole transport layer and the host material and an electron affinity difference of not more than 0.2 eV between a material constituting the electron transport layer and the host material. The organic light emitting device array may further comprise a host material and a hole transport layer, where the electron affinity of host material - electron affinity of the hole transport layer is greater than or equal to 0.2 eV.

AN 2007:1114898 CAPLUS Full-text

DN 147:436412

TI Organic light emitting device array

IN Tanabe, Hiroshi; Senoo, Akihiro; Saitoh, Akihito

PA Canon Kabushiki Kaisha, Japan

SO PCT Int. Appl., 38pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2007111153	A1	20071004	WO 2007-JP55308	20070309
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

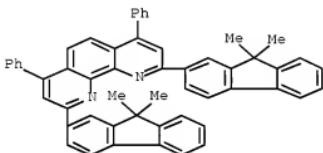
JP 2007266160	A 20071011	JP 2006-87015	A 20060328
US 20090033211	AI 20090205	US 2007-917119	20071210
		JP 2006-87015	A 20060328
		WO 2007-JP5308	W 20070309

IT 676542-59-9

RL: TEM (Technical or engineered material use); USES (Uses)
 (electron emitting layer; organic light emitting device array having
 specific ionization p.d. between hole transport layer and host
 material)

RN 676542-59-9 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)-4,7-diphenyl-
 (CA INDEX NAME)

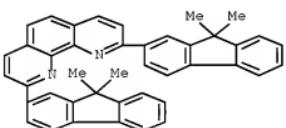


IT 676542-63-5

RL: TEM (Technical or engineered material use); USES (Uses)
 (electron injection layer; organic light emitting device array having
 specific ionization p.d. between hole transport layer and host
 material)

RN 676542-63-5 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX
 NAME)



RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 22 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

AB Org. light-emitting devices are described which comprise a substrate including at least a base material, at least one organic light-emitting element which includes (a) a pair of electrodes provided on the substrate and an organic compound layer disposed between the pair of electrodes, and (b) provides a light-emitting area, an inorg. sealing layer provided on the organic light-emitting element and the surface of the substrate, and an adhesion layer which is provided between the substrate and the inorg. sealing layer and only on the periphery of the light-emitting area for closely contacting the surface of the

substrate and the inorg. sealing layer, and inhibits moisture from intruding at an edge of the inorg. sealing layer.

AN 2007:1092723 CAPLUS [Full-text](#)

DN 147:394903

TI Organic light-emitting device employing an adhesion layer provided between substrate and inorganic sealing layer on the periphery of the light-emitting area for inhibiting moisture from intruding at an edge of the inorganic sealing layer

IN Yamazaki, Takuro; Nagayama, Kohhei

PA Canon Kabushiki Kaisha, Japan

SO U.S. Pat. Appl. Publ., 16pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

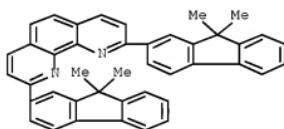
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20070222382	A1	20070927	US 2007-680514 JP 2006-79058 JP 2007-19470	20070228 A 20060322 A 20070130
	JP 2007287660	A	20071101	JP 2007-19470 JP 2006-79058	20070130 A 20060322
	CN 101043070	A	20070926	CN 2007-10088800 JP 2006-79058 JP 2007-19470	20070322 A 20060322 A 20070130

IT 676542-63-5

RL: TEM (Technical or engineered material use); USES (Uses)
(OLED employing adhesion layer provided between substrate and inorg.
sealing layer on periphery of light-emitting area for inhibiting
moisture from intruding at edge of inorg. sealing layer)

RN 676542-63-5 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX
NAME)



L11 ANSWER 23 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

AB Silylanthracenes (R1R2R3Si)b-Y1a-XcC14H10-a-b-c, preferably 9-(R1R2R3Si)-10-Y2-XcC14H8-c [1; R1-R3 = H, halo, (un)substituted alkyl, aralkyl, aryl, heterocyclyl; X = halo, (un)substituted alkyl, aralkyl alkenyl alkynyl, alkoxy, organylthio, silyl, amino, aryl, heterocyclyl; Y1, Y2 = (un)substituted amino, aminoalkyl, aminoaryl, polycyclic aryl, (poly)cyclic hetaryl], useful as efficient and stable electroluminescent light-emitting compds. or dopants for light-emitting materials for fabrication of organic light-emitting devices, were prepared by Suzuki coupling of silylanthracenes (R1R2R3Si)b-XcC14H10-b-c, preferably of 9-(R1R2R3Si)-10-Br-XcC14H8-c with pinacolboranes (CMe2O)2BY1 or (CMe2O)2BY2. Use of compds. 1 in pure form or in the form of dopants for light-emitting materials, such as substituted (oligo)-2,7-diarylfluorenes (4), 9,9'-spirobifluorenes (5), 7-pyrenyl-2-fluoren(organo)amines (6) and

polyaryl(alkyl)benzenes (7; Markush formula for 4-7 claimed) allows fabrication of the light-emitting devices having higher efficiency and lifetime. In an example, compound 1, 9-[4-bis(4-methylphenyl)aminophenyl]-10-(trimethylsilyl)anthracene (1a) was prepared in two steps from 9,10-dibromoanthracene by monosilylation followed by Suzuki coupling with 2-[4-(bis(4-methylphenyl)amino)phenyl]-4,4,5,5-tetramethyl-1,3,2-dioxaborolane. In another example, light-emitting device was fabricated including ITO transparent anode, Al/Li cathode, electron-transporting layer, hole-transporting layer and the 20 nm-thick light-emitting layer, composed from 15:85 mixture of the prepared compound 1a and compound of the type 4, 9,9-dibenzyl-2-(6-pentacenyl)-7-(1-pyrenyl)-9H-fluorene (4a), exhibiting luminance of 380 cd/m² and efficiency of 3.7 lm/W at 4 V voltage.

AN 2007:993784 CAPLUS Full-text

DN 147:323125

TI Silyl anthracene amines as components and dopants for efficient and stable light-emitting materials in manufacture of electroluminescent organic light emitting devices

IN Saitoh, Akihito; Yashima, Masataka

PA Canon Kabushiki Kaisha, Japan

SO U.S. Pat. Appl. Publ., 68pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20070205715	A1	20070906	US 2007-677925	20070222
	US 7365198	B2	20080429		

JP 2007230951 A 20070913 JP 2006-56958 A 20060302

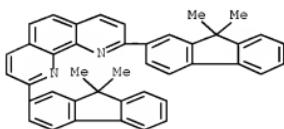
OS MARPAT 147:323125

IT 676542-63-5

RL: TEM (Technical or engineered material use); USES (Uses)
(electron-transporting material; preparation of silyl anthracene arylamino derivs. as electroluminescent components and dopants for manufacturing of organic light-emitting devices of high efficiency and lifetime)

RN 676542-63-5 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl) - (CA INDEX NAME)



RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 24 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

AB The subject matter disclosed herein generally relates to org. light-emitting materials A-(L-Og)p (A = a hole-conducting core, an electron-conducting core, or a non-conducting core; L = an aliphatic linker; Og = a conjugated oligomer;

p = 1-10) and methods for their preparation and use. Also, devices involve organic light emitting materials are disclosed.

AN 2007:534830 CAPLUS Full-text

DN 146:531624

TI Light-emitting organic materials

IN Chen, Shaw H.; Chen, Andrew Chien-An; Wallace, Jason U.; Zeng, Lichang

PA USA

SO U.S. Pat. Appl. Publ., 90pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 20070111027	A1	20070517	US 2006-494854 US 2005-703908P	20060728 P 20050729

OS CASREACT 146:531624

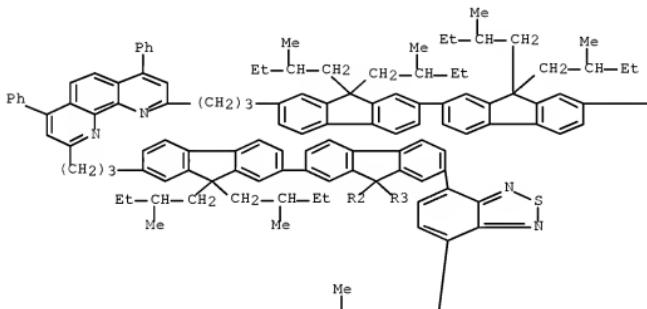
IT 937009-36-4P

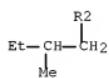
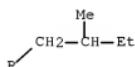
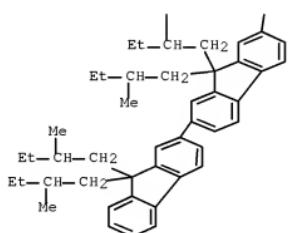
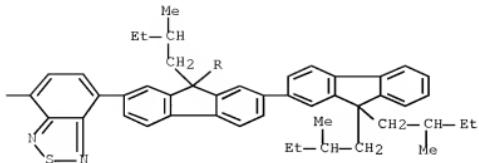
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses (preparation and use of light-emitting organic materials)

RN 937009-36-4 CAPLUS

CN 1,10-Phenanthroline, 4,7-diphenyl-2,9-bis[3-[9,9,9',9'-tetrakis(2-methylbutyl)-7'-(7-[9,9,9',9'-tetrakis(2-methylbutyl)[2,2'-bi-9H-fluoren]-7-yl]-2,1,3-benzothiadiazol-4-yl][2,2'-bi-9H-fluoren]-7-yl]propyl]-(CA INDEX NAME)

PAGE 1-A





L11 ANSWER 25 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

AB The invention relates to an org. light-emitting device, comprising a first active layer and a second active layer fabricated between an anode and a cathode, wherein the HOMO (LUMO) energy level of the main compound in the

first active layer is greater than that of the main compound in the second active layer located at the cathode side and the recombination region spreads in the both active layers, centering the boundary between the first and the second active layer.

AN 2007:409195 CAPLUS Full-text

DN 146:411169

TI Organic light-emitting device

IN Okinaka, Keiji; Saito, Akito; Yamada, Naoki

PA Canon Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 22pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

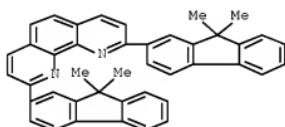
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2007096023	A	20070412	JP 2005-283895 JP 2005-283895	20050929 20050929

IT 676542-63-5

RL: TEM (Technical or engineered material use); USES (Uses)
(electron transport layer; organic light-emitting device)

RN 676542-63-5 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)



L11 ANSWER 26 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

AB Org. light-emitting devices are described which comprise a pair of electrodes which consist of an anode and a cathode and a plurality of organic layers interposed between the pair of electrodes, where the plurality of organic layers include at least an emission layer and another organic layer which is in contact with an anode-side-interface of the emission layer, and where the emission layer include at least a host material; a light-emitting material; and another material having a smaller ionization potential than and almost the same hole mobility as or a greater hole mobility than an ionization potential and a hole mobility of a compound which constitutes an emission layer-interface-side of the another organic layer.

AN 2006:79380 CAPLUS Full-text

DN 144:138659

TI Organic light-emitting devices employing a modifying material with specific ionization potential and hole mobility in light-emitting layer

IN Okinaka, Keiji; Saitoh, Akihito; Yamada, Naoki; Yashima, Masataka; Suzuki, Koichi; Senoo, Akihiro; Ueno, Kazunori

PA Canon Kabushiki Kaisha, Japan

SO U.S. Pat. Appl. Publ., 20 pp.

CODEN: USXXCO

DT Patent

LA English

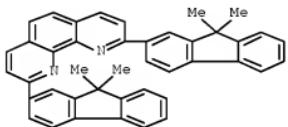
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 20060017376	A1	20060126	US 2005-175206	20050707
JP 2006032757	A	20060202	JP 2004-211231	A 20040720
JP 4086817	B2	20080514	JP 2004-211231	20040720
CN 1725918	A	20060125	CN 2005-10086021	20050720
KR 2006053917	A	20060522	JP 2004-211231	A 20040720
KR 751626	B1	20070822	KR 2005-65611	20050720
			JP 2004-211231	A 20040720

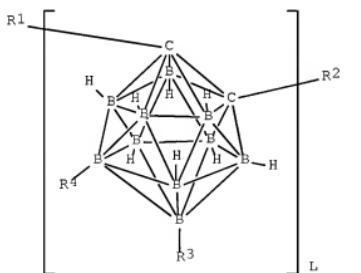
IT 676542-63-5

RL: DEV (Device component use); USES (Uses)
 (electron-transporting layer; organic light-emitting devices employing
 modifying material with specific ionization potential and hole mobility
 in light-emitting layer)

RN 676542-63-5 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX
 NAME)

L11 ANSWER 27 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
 GI



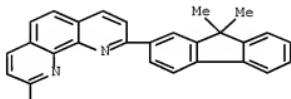
AB The invention refers to an electroluminescent device comprising at least one layer containing carborane compound I [R1-4 = H, (un)substituted alkyl, aryl

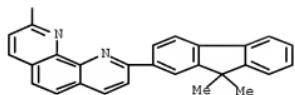
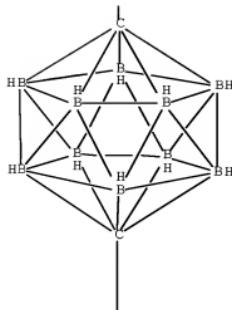
heterocycle, condensed polycyclic aromatic or condensed polycyclic
 heterocycle; L = 1 - 20].
 AN 2005:546320 CAPLUS [Full-text](#)
 DN 143:86374
 TI Organic electroluminescent device using carborane compound
 IN Suzuki, Koichi; Okajima, Aki; Ueno, Kazunori
 PA Canon Inc., Japan
 SO Jpn. Kokai Tokkyo Koho, 47 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005166574	A	20050623	JP 2003-406967 JP 2003-406967	20031205 20031205

OS MARPAT 143:86374
 IT 055312-38-3 855312-50-4
 RL: DEV (Device component use); USES (Uses)
 (Organic electroluminescent device using carborane compound)
 RN 855312-38-8 CAPLUS
 CN 1,10-Phenanthroline, 2,2'-(1,12-dicarbadodecaborane(12)-1,12-diyl)bis[9-(9,9-dimethyl-9H-fluoren-2-yl)- (9CI) (CA INDEX NAME)

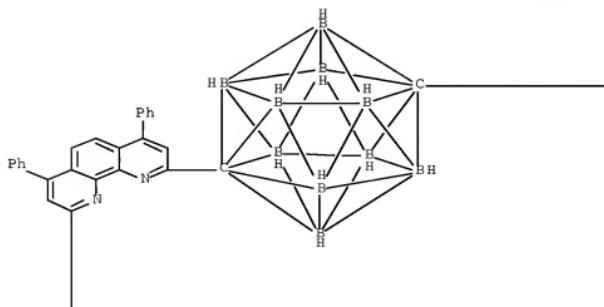
PAGE 1-A



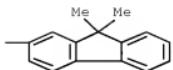


RN 855312-50-4 CAPLUS

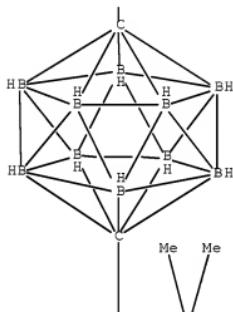
CN 1,10-Phenanthroline, 2,9-bis[12-(9,9-dimethyl-9H-fluoren-2-yl)-1,12-dicarbadodecaboran(12)-1-yl]-4,7-diphenyl- (9CI) (CA INDEX NAME)



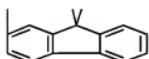
PAGE 1-B

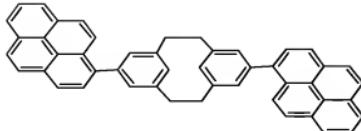
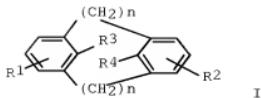


PAGE 2-A



PAGE 3-A





AB The metacyclophanes are I ($R_1-R_4 = H$, alkyl, alkoxy, aryl, etc.; R_1 and/or $R_2 =$ aryl, heterocyclic group, condensed polycyclic aromatic group, condensed polycyclic heterocyclic group, substituted amino, substituted alkenyl, substituted boryl; $n = 2-4$). Thus, an organic electroluminescent device having an emitter layer containing coumarin and pyrenyl-containing metacyclophane II is exemplified.

AN 2005:365458 CAPLUS [Full-text](#)

DN 142:419729

TI Metacyclophanes, and their organic electroluminescent devices showing high luminescence efficiency and intensity

IN Okajima, Maki; Suzuki, Koichi; Ueno, Kazunori

PA Canon Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 28 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2005112784	A	20050428	JP 2003-349216	20031008
	B2	20080123	JP 2003-349216	20031008

OS MARPAT 142:419729

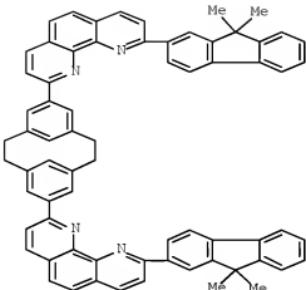
IT 850232-48-3

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

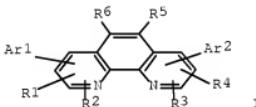
(metacyclophanes for organic electroluminescent devices showing high luminescence efficiency and intensity)

RN 850232-48-3 CAPLUS

CN 1,10-Phenanthroline, 2,2'-tricyclo[9.3.1.14,8]hexadeca-1(15),4,6,8(16),11,13-hexaene-6,13-diylbis[9-(9,9-dimethyl-9H-fluoren-2-yl)- (9CI) (CA INDEX NAME)



L11 ANSWER 29 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
GI



AB Light-emitting devices comprising ≥ 1 org. compd. layer sandwiched between a pair of electrodes are described in which the organic compound layer in contact with the cathode contains a phenanthroline compound described by the general formula I (R1-6 = independently selected hydrogen, alkyl, (un)substituted aralkyl, (un)substituted aryl, (un)substituted heterocyclic, and halo atom; and Ar1 and Ar2 = independently selected (un)substituted condensed polycyclic aromatic or condensed polyheterocyclic groups) and a carbonate. The cathode may comprise In Sn oxide or ≥ 1 of Ag, Au, and Al. The inventors suggest that it is the higher glass transition temps. of the materials used relative to those of conventional materials that is responsible for the increase in lifetime of devices fabricated using them relative to conventional devices.

AN 2004:965575 CAPLUS Full-text

DN 141:403314

TI Light-emitting devices with organic layers containing phenanthroline derivatives and carbonates

IN Hasegawa, Toshinori; Suzuki, Koichi; Okajima, Maki; Kimura, Toshihide

PA Canon Kabushiki Kaisha, Japan

SO PCT Int. Appl., 46 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

PI	WO 2004098242	A1	20041111	WO 2004-JP5556	20040419
W:	AB, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2004335143	A	20041125	JP 2003-125447	A	20030430
JP 3890317	B2	20070307	JP 2003-125447		20030430
TW 228385	B	20050221	TW 2004-93111642	A	20040426
			JP 2003-125447	A	20030430

OS MARPAT 141:403314

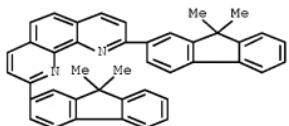
IT 676542-63-5

RL: DEV (Device component use); USES (Uses)
(light-emitting devices with organic layers containing phenanthroline derivs.

with polycyclic substituents and carbonates)

RN 676542-63-5 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)



RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 30 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Phenanthroline derivs. are described by the general formulas I, II, and III (R1-16 = independently selected H, (un)substituted alkyl, (un)substituted aralkyl, (un)substituted aryl, (un)substituted heterocyclic, and halo atom; Ar1-8 = independently selected (un)substituted fluorenyl, (un)substituted fluoranthenyl, (un)substituted perylenyl, and (un)substituted carbazoyl). Organic light-emitting devices using the phenanthroline derivs. (e.g., as an electron-transporting layer or a light-emitting layer) are also described.

AN 2004:267333 CAPLUS Full-text

DN 140:311707

TI Phenanthroline compound and organic light emitting device using same

IN Okajima, Maki; Kawai, Tatsundo; Takiguchi, Takao; Suzuki, Koichi; Senoo, Akihiro; Hasegawa, Toshinori; Okinaka, Keiji

PA Canon Kabushiki Kaisha, Japan

SO PCT Int. Appl., 69 pp.

CODEN: PIIXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004026870	A1	20040401	WO 2003-JP11485	20030909
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP	2004107263	A	20040408	JP 2002-272408	A 20020919
AU	2003260955	A1	20040408	JP 2002-272408 AU 2003-260955	20030909
				JP 2002-272408 WO 2003-JP11485	A 20020919 W 20030909
US	20060097227	A1	20060511	US 2005-527192 JP 2002-272408 WO 2003-JP11485	20050310 A 20020919 W 20030909

OS MARPAT 140:311707

IT 676542-63-5 676542-67-9 676542-69-1

676542-70-4 676542-73-7 676542-77-1

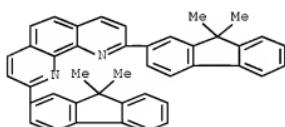
676542-83-9

RL: DEV (Device component use); USES (Uses)

(phenanthroline derivs. and organic light-emitting devices using them)

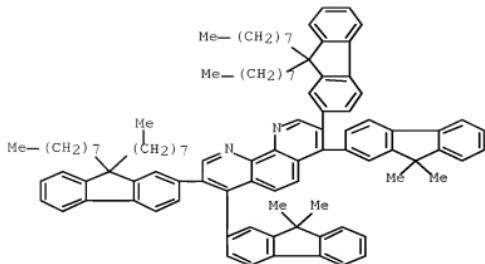
RN 676542-63-5 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)



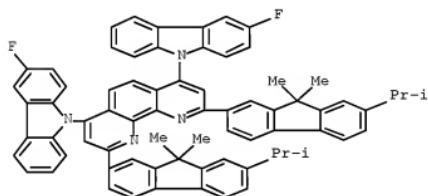
RN 676542-67-9 CAPLUS

CN 1,10-Phenanthroline, 4,7-bis(9,9-dimethyl-9H-fluoren-2-yl)-3,8-bis(9,9-diethyl-9H-fluoren-2-yl)- (CA INDEX NAME)



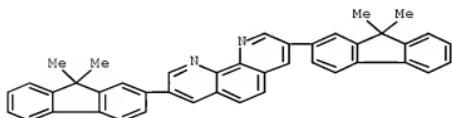
RN 676542-69-1 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis[9,9-dimethyl-7-(1-methylethyl)-9H-fluoren-2-yl]-4,7-bis(3-fluoro-9H-carbazol-9-yl)- (CA INDEX NAME)



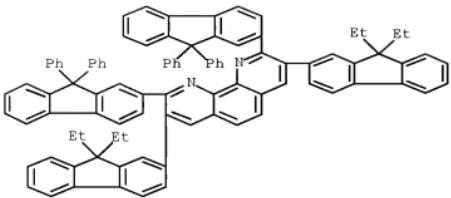
RN 676542-70-4 CAPLUS

CN 1,10-Phenanthroline, 3,8-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)



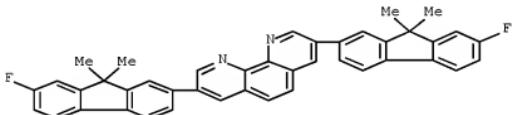
RN 676542-73-7 CAPLUS

CN 1,10-Phenanthroline, 3,8-bis(9,9-diethyl-9H-fluoren-2-yl)-2,9-bis(9,9-diphenyl-9H-fluoren-2-yl)- (CA INDEX NAME)



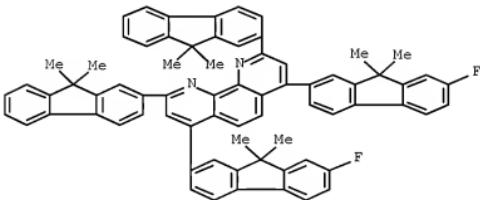
RN 676542-77-1 CAPLUS

CN 1,10-Phenanthroline, 3,8-bis(7-fluoro-9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)



RN 676542-83-9 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)-4,7-bis(7-fluoro-9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)

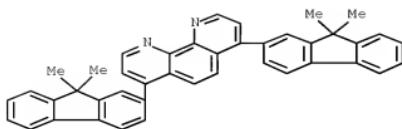


IT 676542-60-3P

RL: DEV (Device component use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses) (phenanthroline derivs. and organic light-emitting devices using them)

RN 676542-60-2 CAPLUS

CN 1,10-Phenanthroline, 4,7-bis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)

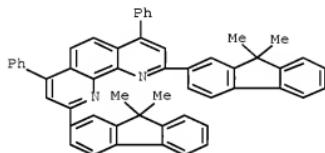


IT 676542-59-9P 676542-61-3P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(phenanthroline derivs. and organic light-emitting devices using them)

RN 676542-59-9 CAPLUS

CN 1,10-Phenanthroline, 2,9-bis(9,9-dimethyl-9H-fluoren-2-yl)-4,7-diphenyl-
(CA INDEX NAME)



RN 676542-61-3 CAPLUS

CN 1,10-Phenanthroline, 2,4,7,9-tetrakis(9,9-dimethyl-9H-fluoren-2-yl)- (CA INDEX NAME)

